

**Listing of claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-24. (Cancelled)

25. (Currently amended) An isolated antibody or fragment thereof that binds to a protein selected from the group consisting of:

- (a) a protein consisting of amino acid residues ~~40 to 615~~ from about 116 to about 271 of SEQ ID NO:2;
- (b) a protein consisting of amino acid residues ~~1 to 615~~ from about 283 to about 308 of SEQ ID NO:2;
- (c) a protein consisting of amino acid residues ~~1 to 310~~ from about 336 to about 372 of SEQ ID NO:2;
- (d) a protein consisting of amino acid residues ~~27 to 171~~ from about 393 to about 434 of SEQ ID NO:2; ~~and~~
- (e) a protein consisting of ~~a portion~~ amino acid residues from about 445 to about 559 of SEQ ID NO:2; ~~and, wherein said portion comprises at least 30 contiguous amino acid residues of SEQ ID NO:2~~
- (f) a protein consisting of amino acid residues from about 571 to about 588 of SEQ ID NO:2.

26. (Previously presented) The antibody or fragment thereof of claim 25 that binds protein (a).

27. (Previously presented) The antibody or fragment thereof of claim 25 that binds protein (b).

28. (Previously presented) The antibody or fragment thereof of claim 25 that binds protein (c).

29. (Previously presented) The antibody or fragment thereof of claim 25 that binds protein (d).

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30. (Previously presented) The antibody or fragment thereof of claim 25 that binds protein (e).

31. (Currently amended) The antibody or fragment thereof of claim ~~26~~25 that binds protein ~~(b)~~(f).

32. (Currently amended) The antibody or fragment thereof of claim ~~30~~25 that binds a protein consisting of a portion of SEQ ID NO:2, wherein said portion comprises at least ~~50~~seven contiguous amino acid residues of SEQ ID NO:2.

33. (Previously presented) The antibody or fragment thereof of claim 25 wherein said protein bound by said antibody or fragment thereof is glycosylated.

34. (Previously presented) The antibody or fragment thereof of claim 25 which is a human antibody.

35. (Previously presented) The antibody or fragment thereof of claim 25 which is a polyclonal antibody.

36. (Previously presented) The antibody or fragment thereof of claim 25 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a humanized antibody;
- (c) a single chain antibody; and
- (d) an Fab fragment.

37. (Previously presented) The antibody or fragment thereof of claim 25 which is labeled.

38. (Previously presented) The antibody or fragment thereof of claim 25 which is radiolabeled

39. (Currently amended) The antibody or fragment thereof of claim 25 which is biotinylated.

40. (Currently amended) The antibody or fragment thereof of claim 25 which is conjugated to a therapeutic or cytotoxic agent.

41. (Previously presented) The antibody or fragment thereof of claim 25, wherein the antibody or fragment thereof agonizes TR9 signaling.

42. (Currently amended) The antibody or ~~portion~~ fragment thereof of claim 25 which is fused to a heterologous polypeptide.

43. (Currently amended) The antibody or fragment thereof of claim 25 which is attached to a solid support.

44. (Previously presented) The antibody or fragment thereof of claim 25 wherein said antibody or fragment thereof binds to said protein in a Western blot.

45. (Previously presented) The antibody or fragment thereof of claim 25 wherein said antibody or fragment thereof binds to said protein in an ELISA.

46. (Previously presented) An isolated cell that produces the antibody or fragment thereof of claim 25.

47. (Previously presented) A hybridoma that produces the antibody or fragment thereof of claim 25.

48. (Previously presented) A method of detecting TR9 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 25; and
- (b) detecting the TR9 protein in the biological sample.

49. (Previously presented) The method of claim 48 wherein the antibody or fragment thereof is a polyclonal antibody.

50. (Currently amended) An isolated monoclonal antibody or fragment thereof that binds to a protein selected from the group consisting of:

- (a) a protein consisting of amino acid residues ~~40 to 615~~ from about 116 to about 271 of SEQ ID NO:2;
- (b) a protein consisting of amino acid residues ~~1 to 615~~ from about 283 to about 308 of SEQ ID NO:2;

- (c) a protein consisting of amino acid residues ~~1 to 310~~ from about 336 to about 372 of SEQ ID NO:2;
- (d) a protein consisting of amino acid residues ~~27 to 171~~ from about 393 to about 434 of SEQ ID NO:2; and
- (e) a protein consisting of ~~a portion~~ amino acid residues from about 445 to about 559 of SEQ ID NO:2; ~~and, wherein said portion comprises at least 30 contiguous amino acid residues of SEQ ID NO:2~~
- (f) a protein consisting of amino acid residues from about 571 to about 588 of SEQ ID NO:2.

51. (Previously presented) The antibody or fragment thereof of claim 50 that binds protein (a).

52. (Previously presented) The antibody or fragment thereof of claim 50 that binds protein (b).

53. (Previously presented) The antibody or fragment thereof of claim 50 that binds protein (c).

54. (Previously presented) The antibody or fragment thereof of claim 50 that binds protein (d).

55. (Previously presented) The antibody or fragment thereof of claim 50 that binds protein (e).

56. (Currently amended) The antibody or fragment thereof of claim ~~54~~ 50 that binds protein ~~(b)~~ (f).

57. (Currently amended) The antibody or fragment thereof of claim ~~55~~ 50 that binds a protein consisting of a portion of SEQ ID NO:2, wherein said portion comprises at least ~~50~~ seven contiguous amino acid residues of SEQ ID NO:2.

58. (Previously presented) The antibody or fragment thereof of claim 50 wherein said protein bound by said antibody or fragment thereof is glycosylated.

59. (Previously presented) The antibody or fragment thereof of claim 50 which is a human antibody.

60. (Previously presented) The antibody or fragment thereof of claim 50 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a humanized antibody;
- (c) a single chain antibody; and
- (d) an Fab fragment.

61. (Previously presented) The antibody or fragment thereof of claim 50 which is labeled.

62. (Previously presented) The antibody or fragment thereof of claim 50 which is radiolabeled

63. (Currently amended) The antibody or fragment thereof of claim 50 which is biotinylated.

64. (Currently amended) The antibody or fragment thereof of claim 50 which is conjugated to a therapeutic or cytotoxic agent.

65. (Previously presented) The antibody or fragment thereof of claim 50 wherein the antibody or fragment thereof agonizes TR9 signaling.

66. (Currently amended) The antibody or ~~portion-fragment~~ fragment thereof of claim 50 which is fused to a heterologous polypeptide.

67. (Currently amended) The antibody or fragment thereof of claim 50 which is attached to a solid support.

68. (Previously presented) The antibody or fragment thereof of claim 50 wherein said antibody or fragment thereof binds to said protein in a Western blot.

69. (Previously presented) The antibody or fragment thereof of claim 50 wherein said antibody or fragment thereof binds to said protein in an ELISA.

70. (Previously presented) An isolated cell that produces the antibody or fragment thereof of claim 50.

71. (Previously presented) A hybridoma that produces the antibody or fragment thereof of claim 50.

72. (Previously presented) A method of detecting TR9 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 50; and
- (b) detecting the TR9 protein in the biological sample.

73. (Currently amended) An isolated antibody or fragment thereof that binds to a protein selected from the group consisting of:

- (a) a protein consisting of amino acid residues from about 116 to about 271 of the full-length polypeptide-amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037;
- (b) a protein consisting of amino acid residues from about 283 to about 308 of the mature form of the polypeptide-amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037;
- (c) a protein consisting of amino acid residues from about 336 to about 372 of the extracellular domain of the polypeptide-amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037;
- (d) a protein consisting of amino acid residues from about 393 to about 434 of the cysteine-rich domain of the polypeptide-amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037; ~~and~~
- (e) a protein consisting of amino acid residues from about 445 to about 559 of a portion of the polypeptide-the amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037, ~~wherein said portion comprises at least 30 contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037; and~~
- (f) a protein consisting of amino acid residues from about 571 to about 588 of the amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037.

74. (Previously presented) The antibody or fragment thereof of claim 73 that binds protein (a).

75. (Previously presented) The antibody or fragment thereof of claim 73 that binds protein (b).

76. (Previously presented) The antibody or fragment thereof of claim 73 that binds protein (c).

77. (Previously presented) The antibody or fragment thereof of claim 73 that binds protein (d).

78. (Previously presented) The antibody or fragment thereof of claim 73 that binds protein (e).

79. (Currently amended) The antibody or fragment thereof of claim ~~74~~73 that binds protein ~~(b)~~(f).

80. (Currently amended) The antibody or fragment thereof of claim ~~78~~73 that binds a protein consisting of a portion of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037, wherein said portion comprises at least ~~50~~seven contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037.

81. (Previously presented) The antibody or fragment thereof of claim 73 wherein said protein bound by said antibody or fragment thereof is glycosylated.

82. (Previously presented) The antibody or fragment thereof of claim 73 which is a human antibody.

83. (Previously presented) The antibody or fragment thereof of claim 73 which is a polyclonal antibody.

84. (Previously presented) The antibody or fragment thereof of claim 73 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a humanized antibody;
- (c) a single chain antibody; and
- (d) an Fab fragment.

85. (Previously presented) The antibody or fragment thereof of claim 73 which is labeled.

86. (Previously presented) The antibody or fragment thereof of claim 73 which is radiolabeled

87. (Currently amended) The antibody or fragment thereof of claim 73 which is biotinylated.

88. (Currently amended) The antibody or fragment thereof of claim 73 which is conjugated to a therapeutic or cytotoxic agent.

89. (Previously presented) The antibody or fragment thereof of claim 73, wherein the antibody or fragment thereof agonizes TR9 signaling.

90. (Currently amended) The antibody or ~~portion-fragment~~ fragment thereof of claim 73 which is fused to a heterologous polypeptide.

91. (Currently amended) The antibody or fragment thereof of claim 73 which is attached to a solid support.

92. (Previously presented) The antibody or fragment thereof of claim 73 wherein said antibody or fragment thereof binds to said protein in a Western blot.

93. (Previously presented) The antibody or fragment thereof of claim 73 wherein said antibody or fragment thereof binds to said protein in an ELISA.

94. (Previously presented) An isolated cell that produces the antibody or fragment thereof of claim 73.

95. (Previously presented) A hybridoma that produces the antibody or fragment thereof of claim 73.

96. (Previously presented) A method of detecting TR9 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 73; and



- (b) detecting the TR9 protein in the biological sample.

97. (Previously presented) The method of claim 96 wherein the antibody or fragment thereof is a polyclonal antibody.

98. (Currently amended) An isolated monoclonal antibody or fragment thereof that binds to a protein selected from the group consisting of:

- (a) a protein consisting of amino acid residues from about 116 to about 271 of the ~~full-length polypeptide~~ amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037;
- (b) a protein consisting of amino acid residues from about 283 to about 308 of the ~~mature form of the polypeptide~~ amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037;
- (c) a protein consisting of amino acid residues from about 336 to about 372 of the ~~extracellular domain of the polypeptide~~ amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037;
- (d) a protein consisting of amino acid residues from about 393 to about 434 of the ~~cysteine-rich domain of the polypeptide~~ amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037; ~~and~~
- (e) a protein consisting of amino acid residues from about 445 to about 559 of a ~~portion of the polypeptide~~ the amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037, ~~wherein said portion comprises at least 30 contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037; and~~
- (f) a protein consisting of amino acid residues from about 571 to about 588 of the amino acid sequence encoded by the cDNA contained in ATCC Deposit Number 209037.

99. (Previously presented) The antibody or fragment thereof of claim 98 that binds protein (a).

100. (Previously presented) The antibody or fragment thereof of claim 98 that binds protein (b).

101. (Previously presented) The antibody or fragment thereof of claim 98 that binds protein (c).

102. (Previously presented) The antibody or fragment thereof of claim 98 that binds protein (d).

103. (Previously presented) The antibody or fragment thereof of claim 98 that binds protein (e).

104. (Currently amended) The antibody or fragment thereof of claim ~~99~~98 that binds protein ~~(b)~~(f).

105. (Currently amended) The antibody or fragment thereof of claim ~~103~~98 that binds a protein consisting of a portion of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037, wherein said portion comprises at least ~~50~~seven contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037.

106. (Previously presented) The antibody or fragment thereof of claim 98 wherein said protein bound by said antibody or fragment thereof is glycosylated.

107. (Previously presented) The antibody or fragment thereof of claim 98 which is a human antibody.

108. (Previously presented) The antibody or fragment thereof of claim 98 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a humanized antibody;
- (c) a single chain antibody; and
- (d) an Fab fragment.

109. (Previously presented) The antibody or fragment thereof of claim 98 which is labeled.

110. (Previously presented) The antibody or fragment thereof of claim 98 which is radiolabeled.

111. (Currently amended) The antibody or fragment thereof of claim 98 which is biotinylated.

112. (Currently amended) The antibody or fragment thereof of claim 98 which is conjugated to a therapeutic or cytotoxic agent.

113. (Previously presented) The antibody or fragment thereof of claim 98, wherein the antibody or fragment thereof agonizes TR9 signaling.

114. (Currently amended) The antibody or ~~portion~~-fragment thereof of claim 98 which is fused to a heterologous polypeptide.

115. (Currently amended) The antibody or fragment thereof of claim 98 which is attached to a solid support.

116. (Previously presented) The antibody or fragment thereof of claim 98 wherein said antibody or fragment thereof binds to said protein in a Western blot.

117. (Previously presented) The antibody or fragment thereof of claim 98 wherein said antibody or fragment thereof binds to said protein in an ELISA.

118. (Previously presented) An isolated cell that produces the antibody or fragment thereof of claim 98.

119. (Previously presented) A hybridoma that produces the antibody or fragment thereof of claim 98.

120. (Previously presented) A method of detecting TR9 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 98; and
- (b) detecting the TR9 protein in the biological sample.

121-125. (Cancelled)